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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,455	01/15/2004	Khiem Le	059864.01182	5064
32294	7590	10/16/2008		
SQUIRE, SANDERS & DEMPSEY L.L.P. 8000 TOWERS CRESCENT DRIVE 14TH FLOOR VIENNA, VA 22182-6212			EXAMINER CHEEMA, UMAR	
			ART UNIT 2444	PAPER NUMBER
			MAIL DATE 10/16/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/757,455	Applicant(s) LE, KHIEM	
	Examiner UMAR CHEEMA	Art Unit 2444	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This action is response to the Request for Continued Examination (RCE) filed on 09/10/2008. Claims 1-26 are pending with claims 1 and 15 being amended and new claims 25-26 being added.

A request for continued examination under 37 CFR 1.114 was filed in this application after appeal to the Board of Patent Appeals and Interferences, but prior to a decision on the appeal. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 09/10/2008 has been entered.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Software, *per se*:

The claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se*.

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be

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realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)

Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because “[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.”).

2. Claims 25 and 26 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims are directed to a computer readable program which is directed to software per se and therefore is a non-statutory subject matter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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3. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonsson et al (Jonsson) (US Patent # 6,970,476) in view of Banerji et al (Banerji) (US 2003/0012278).

Regarding claim 1 and 25, Jonsson discloses substantially the invention as claimed a method and a computer readable program, comprising: updating the compression history selectively, wherein selection is performed based on a first algorithm for determining whether a packet shall be compressed, and on a second algorithm for determining whether a compressed packet shall be used for an update of the compression history (see col. 11, lines 10-19; context updating between first and second packet communication station).

Jonsson does not explicitly disclose wherein said compression history and first and second algorithm for determining whether a packet shall be compressed. However in the same field of invention Banerji discloses wherein said compression history and first and second algorithm for determining whether a packet shall be compressed (see par. 0010-0011; compression algorithm that can exploit data history from the beginning of each file).

It would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson and Banerji for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data value tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the

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similarities for excellent compression performance (see Banerji: par. 0026).

Regarding claim 2, the combination of Jonsson and Banerji disclose the method according to claim 1, further comprising: ensuring a history consistency between a compressor and a decompressor by using transmission control protocol, wherein the compressor monitors an acknowledgment signaling of a transmission control protocol receiver (see Jonsson: col. 2, lines 35-40, col. 9, lines 55-60; Banerji: see par. 0010-0011).

Regarding claim 3, the combination of Jonsson and Banerji disclose the method according to claim 1, further comprising: ensuring a history consistency between a compressor and a decompressor by using a feedback between the compressor and the decompressor (see Jonsson: col. 10, lines 5-9; Banerji: see par. 0010-0011).

Regarding claim 4, the combination of Jonsson and Banerji disclose the method according to claim 2, further comprising: enabling the compressor to safely infer a subset of a first context at the decompressor by monitoring the transmission control protocol acknowledgment signaling, wherein the subset is used as a second context for compression (see Jonsson: col. 2, lines 35-40, col. 9, lines 55-60; Banerji: see par. 0035).

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Regarding claim 5, the combination of Jonsson and Banerji disclose the method according to claim 1, further comprising: ensuring a history consistency between a compressor and a decompressor by combining use of transmission control protocol, wherein the compressor monitors an acknowledgment signaling of a transmission control protocol receiver, with use of a feedback between the compressor and the decompressor (see Jonsson: col. 2, lines 35-40, col. 9, lines 55-60; Banerji: see par. 0035).

Regarding claim 6 and 26, Jonsson discloses substantially the invention as claimed a method and a computer readable program, comprising: using a first algorithm in conjunction with a compressing device to decide if a current packet should be compressed; using a second algorithm in conjunction with the compressing device to decide which packets out of packets sent compressed are to be used to update a buffer of the compressing device (see col. 11, lines 10-19; context updating between first and second packet communication station); signaling from the compressing device to a decompressing device such that the decompressing device knows which of the packets out of the packets sent are to be included in a compression history (see figure 2, col. 4, lines 41-49).

Jonsson does not explicitly disclose wherein said compression history and first and second algorithm in conjunction with a compression device. However in the same field of invention Banerji discloses wherein said compression history and first and

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second algorithm in conjunction with a compression device (see par. 0010-0011; compression algorithm that can exploit data history from the beginning of each file).

It would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson and Banerji for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data value tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji: par. 0026).

Regarding claim 7, the limitations of this claim has already been addressed (see claim 2 above).

Regarding claim 8, the limitations of this claim has already been addressed (see claim 4 above).

Regarding claim 9, the limitations of this claim has already been addressed (see claim 3 above).

Regarding claim 10, the limitations of this claim has already been addressed (see claim 5 above).

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Regarding claim 11, Jonsson discloses substantially the invention as claimed above an apparatus, comprising: processor configured to update a compression history selectively, the processor having implemented and being configured to process a first algorithm related to whether a packet shall be compressed, and a second algorithm related to whether a compressed packet shall be used for an update of the compression history (see col. 11, lines 10-19; context updating between first and second packet communication station).

Jonsson does not explicitly disclose wherein said compression history and first and second algorithm for determining whether a packet shall be compressed. However in the same field of invention Banerji discloses wherein said compression history and first and second algorithm for determining whether a packet shall be compressed (see par. 0010-0011; compression algorithm that can exploit data history from the beginning of each file).

It would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson and Banerji for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data value tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji: par. 0026).

Regarding claim 12, the combination of Jonsson and Banerji disclose apparatus according to claim 11, further comprising: monitor configured to monitor an

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acknowledgment signaling of a transmission control protocol receiver, wherein the monitor is operably connected to the processor (see Jonsson: col. 2, lines 35-40, col. 9, lines 55-60; Banerji: see par. 0010-0011).

Regarding claim 13, the combination of Jonsson and Banerji disclose the apparatus according to claim 12, wherein said monitor is configured to be enabled to safely infer a subset of a first context at a decompressor by monitoring transmission control protocol acknowledgment signaling, wherein the subset is used as a second context for compression (see Jonsson: col. 2, lines 35-40, col. 7, lines 20-25, figure 2; Banerji: see par. 0010-0011).

Regarding claim 14, the combination of Jonsson and Banerji disclose the apparatus according to claim 11, further comprising: establisher configured to establish a feedback between the compression device and a decompression device, wherein the establisher is operably connected to the processor (see Jonsson: col. 10, lines 5-9, col. 7, lines 20-25; Banerji: see par. 0010-0011).

Regarding claim 15, Jonsson substantially discloses the invention as claimed an apparatus, comprising: a transmitter configured to signal to a decompression device which of a first set of packets are to be included in a compression history, the transmitter having implemented and processing a first algorithm used to decide if the current packet should be compressed and (see figure 2, col. 4, lines 41-49); processor

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configured to have implemented and to process a second algorithm, wherein the second algorithm is used to determine which of a second set of packets out of a third set of packets sent compressed are to be used to update a buffer, wherein the processor is operably connected to the transmitter (see col. 2, lines 35-40, col. 7, lines 20-25, figure 2).

Jonsson does not explicitly disclose wherein said compression history and first and second algorithm for determining whether a packet shall be compressed. However in the same field of invention Banerji discloses wherein said compression history and first and second algorithm for determining whether a packet shall be compressed (see par. 0010-0011; compression algorithm that can exploit data history from the beginning of each file).

It would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson and Banerji for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data value tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji: par. 0026).

Regarding claim 16, the limitations of this claim has already been addressed (see claim 12 above).

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Regarding claim 17, the limitations of this claim has already been addressed (see claim 13 above).

Regarding claim 18, the limitations of this claim has already been addressed (see claim 14 above).

Regarding claim 19, Jonsson substantially discloses the invention as claimed an apparatus, comprising: a receiver configured to receive signals from a compression device indicating which packets are to be included in a compression history (see col. 6, lines 58-65, figure 6; receiving context updating request); and a processor configured to process a packet sequence number for updating a buffer in synchronization with the compression device, wherein the processor is operably connected to the receiver (see col. 2, lines 35-40, col. 7, lines 20-25, figure 2).

Jonsson does not explicitly discloses wherein said compression history. However in the same field of invention Banerji discloses wherein said compression history (see par. 0010-0011; compression algorithm that can exploit data history from the beginning of each file).

It would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson and Banerji for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data value tend to have similar statistical properties

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within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji: par. 0026).

Regarding claim 20, the combination of Jonsson and Banerji disclose the apparatus according to claim 19, further comprising: forwarding unit configured to forward an acknowledgment signaling of a transmission control protocol receiver to the compression device, wherein the forwarding unit is operably connected to the receiver (see Jonsson: figure 6, col. 6, lines 53-60, col. 2, lines 35-40; Banerji: see par. 0010-0011).

Regarding claim 21, the combination of Jonsson and Banerji disclose the apparatus according to claim 19, further comprising: an establishing unit configured to establish a feedback between the compression device and the decompression device, wherein the establishing means is operably connected to the receiver (see Jonsson: col. 10, lines 5-9, col. 7, lines 20-25; Banerji: see par. 0010-0011).

Regarding claim 22, Jonsson discloses substantially the invention as claimed an apparatus, comprising: updating means for updating a compression history selectively, the updating means for implementing and processing a first algorithm related to whether a packet shall be compressed, and a second algorithm related to whether a compressed packet shall be used for an update of the compression history (see col. 11,

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lines 10-19, col. 6, lines 37-42; context updating between first and second packet communication station).

Jonsson does not explicitly disclose wherein said a processor, compression history and first and second algorithm for determining whether a packet shall be compressed. However in the same field of invention Banerji discloses wherein said a processor (see par. 0047; a processor 603, figure 6), compression history and first and second algorithm for determining whether a packet shall be compressed (see par. 0010-0011; compression algorithm that can exploit data history from the beginning of each file).

It would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson and Banerji for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data value tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji: par. 0026).

Regarding claim 23, Jonsson discloses substantially the invention as claimed an apparatus, comprising: signaling means for signaling a decompression device which of a first set of packets are to be included in the compression history, the signaling means having implemented and processing a first algorithm used to decide if the current packet should be compressed (see figure 2, col. 4, lines 41-49); and processor means for having implementing and processing a second algorithm, wherein the second algorithm

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is used to determine which of a second set of packets out of a third set of packets sent compressed are to be used to update the buffer, wherein processor is operably connected to the means for signaling (see col. 2, lines 35-40, col. 7, lines 20-25, figure 2).

Jonsson does not explicitly disclose wherein said compression history and first and second algorithm for determining whether a packet shall be compressed. However in the same field of invention Banerji discloses wherein said compression history and first and second algorithm for determining whether a packet shall be compressed (see par. 0010-0011; compression algorithm that can exploit data history from the beginning of each file).

It would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson and Banerji for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data values tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji: par. 0026).

Regarding claim 24, Jonsson discloses substantially the invention as claimed an apparatus, comprising: receiving means for receiving signals from a compression device indicating which packets are to be included in a compression history (see col. 6, lines 58-65, figure 6; receiving context updating request); processing means for processing a packet sequence number for updating the buffer in synchronization with

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the compression device, wherein the processor is operably connected to the receiving means (see col. 2, lines 35-40, col. 7, lines 20-25, figure 2).

Jonsson does not explicitly disclose wherein said compression history. However in the same field of invention Banerji discloses wherein said compression history (see par. 0010-0011; compression algorithm that can exploit data history from the beginning of each file).

It would have been obvious to one of the ordinary skill in the art of networking at the time of this invention to combine the teaching of Jonsson and Banerji for compression efficiency in a packet data communication system. Motivation for doing so would have been that because data value tend to have similar statistical properties within such a file, a lossless compression algorithm can subsequently exploit the similarities for excellent compression performance (see Banerji: par. 0026).

Response to Arguments

4. Applicant's arguments filed on 09/10/2008 have been fully considered but are not persuasive. However, because there exists the likelihood of future presentation of this argument, the Examiner thinks that it is prudent to address applicant's main point of contention. Applicant's argument includes:

A. Regarding claims 1, 6, 11, 15, 19 and 22-24, Applicant argues that Jonsson in view of Banerji does not teach or suggest "updating a compression history selectively, wherein selection is performed based on a first algorithm for determining whether a packet shall be compressed, and on a second algorithm for determining

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whether a compressed packet shall be used for an update of the compression history," as cited in the presently pending claims.

As for Point A, it is Examiner's position that Jonsson in view of Banerji teaches or suggests "updating a compression history selectively, wherein selection is performed based on a first algorithm for determining whether a packet shall be compressed, and on a second algorithm for determining whether a compressed packet shall be used for an update of the compression history (see Jonsson: abstract, lines 20-33, col. 11, lines 10-19; packet communication that utilize header compression/decompression, compression efficiency description and context updating between first and second packet communication station; Banerji: par. 0010-0011, 0025-0029, figures 3-6 and the description related to these figures; compression algorithm that can exploit data history from the beginning of each file)," as cited in the presently pending claims. Thus it is Examiners position that Jonsson in view of Banerji discloses these claims limitations and rejection to these claims and their dependent claims is proper.

5. **Examiner's Note:** Examiner has cited particular paragraphs, figures, columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully

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consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to UMAR CHEEMA whose telephone number is (571)270-3037. The examiner can normally be reached on M-F 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Jr. Vaughn can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/U. C./

Examiner, Art Unit 2444

/William C. Vaughn, Jr./

Supervisory Patent Examiner, Art Unit 2444